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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,721	11/29/2006	Ewald Schneider	1-17295	1917
1678	7590	09/28/2010	EXAMINER	
MARSHALL & MELHORN, LLC FOUR SEAGATE - EIGHTH FLOOR TOLEDO, OH 43604				LEE, DORIS L
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/574,721	SCHNEIDER, EWALD	
	Examiner	Art Unit	
	Doris L. Lee	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 25 August 2010.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 11,13,17,19 and 20 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 11,13,17,19 and 20 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 25, 2010 has been entered.

Claim Objections

2. **Claim 11** is objected to because of the following informalities: the limitation "adipic acid" should be changed to "adipinic acid" because the specification recites "adipinic acid". Although adipinic and adipic acids are alternatives referring to the same dicarboxy acid, for consistency, the applicant should recite adipinic in the claim since that is what the specification originally had. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claim 20** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 20, the limitation “wherein the molding compound is produced therefrom” is confusing because claim 19 from which claim 20 depends from recites producing a molded article from a molding compound.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 11, 13, 17 and 19-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Schlosser et al (US 6,547,992)** in view of **Sicken et al (EP 584576, please refer to US 5,326,805 for the English language equivalent), Sugino et al (US 5,895,607) and Saga et al (US 2005/0113496)**.

Regarding claim 11, Schlosser teaches a flame proof polyamide composition (col. 4, line 13) which comprises:

- 1 to 30 % (col. 6, lines 1-10) by weight of a phosphinate or diphosphinate flame retardant with a structure as presently claimed (Abstract)
- 0.1 to 10% by weight (col. 4, lines 5-7) of a particle like filler such as glass powders, glass-ceramic powders or ceramic powders (col. 4, lines 30-35)
- and other additives such as light stabilizers, lubricants or colorants (col. 6, lines 60-65)

Schlosser fails to teach the a) amount of the other additives and also b) the mixture of aliphatic and semi-aromatic polyamides and c) the type of semi-aromatic polyamide.

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Regarding a), Sicken teaches that that amount of lubricants and colorants ranges from 1 to 80% by weight (col. 8, lines 20-25).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the amount of additives as taught by Sicken. One would have been motivated to do so because Schlosser explicitly teaches and refers one to the Sicken document regarding the additives (Schlosser, col. 6, lines 63-64).

Given that other than the polymer, the only ingredients in the composition based on the teachings of the Schlosser and Sicken are the phosphinate flame retardant, particle filler and additive, the total amount of polymer can be calculated to range from above 0 to 97.9 % by weight of polyamide.

Regarding b) above, Sugino teaches a mixture of a semi-aromatic polyamide and an aliphatic in a weight ratio of 10:90 to 90:10 (Abstract).

It would have been obvious to use a mixture of semi-aromatic and aliphatic polyamides as taught by Sugino as the polyamide of modified Schlosser. One would have been motivated to do so in order to balance the rigidity and the impact resistance of the polymeric composition (Sugino, col. 3, line 60 - col. 4, lines 5). They are combinable because they are concerned with the same field of endeavor, namely polyamide compositions.

Regarding c) above, it is noted that Sugino teaches that the semi aromatic polymer can be made from many types of diamines and dicarboxylic acids and is not particularly limited (col. 4, lines 5-10), and gives examples such hexamethylene diamine

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(col. 4, line 17) and adipic acid (col. 4, lines 17). However, it fails to teach the addition of terephthalic acid and isophthalic acid.

Saga teaches that adipic acid and other acids such as terephthalic acid and isophthalic acid ([0016]) are equivalent in regards to polyamide synthesis.

In view of Saga's recognition that adipic acid and terephthalic acid and isophthalic acid are equivalent and interchangeable, it would have been obvious to one of ordinary skill in the art to substitute one with the other and thereby arrive at the present invention. Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See *In re Ruff* 118 USPQ 343 (CCPA 1958).

Regarding claim 13, modified Schlosser teaches that the aliphatic polyamides are copolymers made from aliphatic amino carboxylic acids, the amino carboxylic acids also being able to be used in the form of their lactams (Sugino, col. 4, lines 20-35).

Regarding claim 17, Schlosser teaches that the flame proofing agent is a phosphinic acid salt of formula (I) or a diphosphinic acid salt of formula (II) where M is calcium or aluminum ion (Abstract).

Regarding claim 19, Schlosser teaches a method for producing molded articles from the composition of claim 11, such as injection molding (col. 6, lines 50-55).

Regarding claim 20, given that modified Schlosser teaches all the components of the composition, it is therefore inherent that the prior art composition has the desired flame retardancy since such a property is evidently dependent upon the nature of the

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composition used. Case law holds that a material and its properties are inseparable. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Response to Arguments

7. In light of applicant's amendment filed on August 25, 2010 which canceled claim 21, the 35 USC 112 first paragraph rejection set forth against that claim in paragraph 3 of the Office Action mailed on 5/25/2010 has been withdrawn.

8. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection; any pertinent remaining arguments are addressed below:

9. **Applicant's argument:** The invention provides significant improvement in the mechanical properties of the inventive molding as opposed to known moldings.

Examiner's response: *The examiner has considered the data presented and does not find the applicant's arguments persuasive. Most notably, the applicant has not provided data that shows a proper side-by-side comparison. Applicant has changed both the type of polyamides and the amount of flame retardant in the samples; therefore no definitive conclusion can be drawn from the criticality of either component to the flame retardancy of the composition. The data is also not commensurate in scope with the presently claimed invention, for example, consider component A, which is claimed in an amount from 20-80%, whereas the data presented ranges from 18.7 - 47.4 %. It is noted that Example 4 does not read on the claimed invention as the amount of the aliphatic polyamide (18.7 %) is outside the claimed range of 20-80%, thus the showing of criticality of the claimed range is not persuasive.*

Conclusion

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Doris L. Lee whose telephone number is (571)270-3872. The examiner can normally be reached on Monday - Thursday 7:30 am to 5 pm and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Doris L Lee/
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796

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